C-A OPERATIONS PROCEDURES MANUAL

ATTACHMENT

4.120.3.e 4 O'CLOCK (PEER 9) MODE 25 TESTS FROM LOCAL PANEL

C-A-OPM Procedures in which this Attachment is used.		
4.120.3		

Hand Processed Changes

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Approved: _____***Signature on File***_____ _____
Collider-Accelerator Department Chairman Date

V. Castillo

4.120.3.e 4 O'CLOCK (PEER 9) MODE 25 TESTS FROM LOCAL PANEL

PASS ANNUAL ACCEPTANCE TEST PROTOCOL

Division A Software Filename and Checksum: Title:_____ Checksum: _____

Division B Software Filename and Checksum: Title:_____ Checksum: _____

Initial testing complete:

Test Team Leader's Name (Print): _____ Life Number: _____

Test Team Leader's Name (Sign): _____ Date: _____/____/_____

Acceptance test procedure complete (following repairs and retesting if required):

Test Team Leader's Name (Print): _____ Life Number:_____

Test Team Leader's Name (Sign): _____ Date: _____/____/_____

Test results reviewed by:

Safety Section Head's Name (Print):_____ Life Number: _____

Safety Section Head's Name (Sign):_____ Date: _____/____/_____

Test results accepted by Radiation Safety Committee:

RSC Member's Name (Print):_____ Life Number: _____

RSC Member's Name (Sign):_____ Date: _____/____/_____

1.1 Confirm proper response of a Critical Device Enable in Mode 25 to a Key release:

At the **Local Control Panel** in the **RF** control room in **1004A:**

☐ **PLACE**	**PEER 9** in **No Access (MODE 25).**	
☐ **VERIFY**	that the local control panel indicates that **PEER 9** is in	**MODE 25**
☐ **VERIFY**	**RF CD#1 READBACK OK** lamp on the local control panel is	**OFF**
☐ **VERIFY**	**RF CD#2 READBACK OK** lamp on the local control panel is	**OFF**
☐ **VERIFY**	**Circuit Breaker** of **RF Cavity PS** is	**ON**
Push & Hold	**Push Button** simulating **Enable** for **RF Cavity PS**	
TURN	**Key** in **Local Panel** to	**OFF**
☐ **VERIFY**	**PEER 9** is in **(Safe Mode)**	**MODE 1**
☐ **VERIFY**	**Circuit Breaker** for **RF Cavity PS HV** drops	**OUT**
☐ **VERIFY**	**NG Hware** light is	**ON**
RESET	**NG Hware** from **PLC**	
☐ **VERIFY**	**NG Hware** light is	**OFF**

CONDUCT Above **Test Sequence** following table below

RF Cavity PS	Verify Peer 9 in Mode 25	Push & Hold	Turn LP Key	Verify Peer 9 goes to Mode 1	Verify Ckt Bkr pops	Verify NG Hware light On	Rel. Push Buttn	Do PLC reset of NG Hware	Verify NG Hware light Off	Go to Mode 25 & next test
YO4 – CAVA3.1	☐	**A1-00**		☐	☐	☐			☐	
B14 – CAVA3.2	☐	**A1-03**		☐	☐	☐			☐	
B14 – CAVS3.1	☐	**A1-07**		☐	☐	☐			☐	
G4 – CAVSX3	☐	**A1-14**		☐	☐	☐			☐	
Y04 – CAVA3.2	☐	**B2-01**		☐	☐	☐			☐	
B14 – CAVS3.3	☐	**B2-11**		☐	☐	☐			☐	
Y04 – CAVS3.2	☐	**B2-05**		☐	☐	☐			☐	
G4 – CAVSX2	☐	**B2-13**		☐	☐	☐			☐	
Y04 – CAVS3.1	☐	**A2-04**		☐	☐	☐			☐	
B14 – CAVS3.2	☐	**A2-10**		☐	☐	☐			☐	
G4 – CAVSX1	☐	**A2-12**		☐	☐	☐			☐	
Y04 – CAVS3.3	☐	**B1-06**		☐	☐	☐			☐	
B14 – CAVA3.1	☐	**B1-02**		☐	☐	☐			☐	
G4 – CAVSX4	☐	**B1-15**		☐	☐	☐			☐	**End of Test**

☐ **Check for Acceptance of Confirm proper response of a Critical Device Enable in Mode 25 to a Key release**

1.2 Confirm the Reachback response of Power Supplies: Y04-CAVA3.1 with tied-in Y04-Landau, and B14-CAVA3.1with tied-in B14-Landau, to a Critical Device Enable in Mode 25 and a Key release.

At the **Local Control Panel** in the **RF** control room in **1004A:**

☐	**PLACE**	**PEER 9** in **No Access (MODE 25).**	
☐	**VERIFY**	that the local control panel indicates that **PEER 9** is in	**MODE 25**
☐	**VERIFY**	**RF CD#1 READBACK OK** lamp on the local control panel is	**OFF**
☐	**VERIFY**	**RF CD#2 READBACK OK** lamp on the local control panel is	**OFF**
☐	**VERIFY**	**Circuit Breaker** of **RF Cavity PS** is	**ON**
	Push & Hold	**Push Button** simulating **On Status** for **RF Cavity PS**	
	TURN	**Key** in **Local Panel** to	**OFF**
☐	**VERIFY**	**PEER 9** is in **(Safe Mode)**	**MODE 1**
☐	**VERIFY**	**Circuit Breaker** for **RF Cavity PS HV** drops	**OFF**
☐	**VERIFY**	**NG Hware** light is	**ON**
	RESET	**NG Hware** from **PLC**	
☐	**VERIFY**	**NG Hware** light is	**OFF**

CONDUCT Above **Test Sequence** following table below

RF Cavity PS	Verify Peer 9 in Mode 25	Push & Hold	Turn LP Key	Verify Peer 9 goes to Mode 1	Verify Ckt Bkr pops	Verify NG Hware light On	Rel. Push Buttn	Do PLC reset of NG Hware	Verify NG Hware light Off	Go to Mode 25 & next test
YO4 – CAVA3.1	☐	**A1-00**		☐	☐	☐			☐	
B14 – CAVA3.1	☐	**A1-07**		☐	☐	☐			☐	

☐ **Check for Acceptance of Confirm the Reachback response of Power Supplies: Y04-CAVA3.1 with tied-in Y04-Landau, and B14-CAVA3.1with tied-in B14-Landau, to a Critical Device Enable in Mode 25 and a Key release**

1.3 Test that a Crash Operator forces the system from Mode 25 to Mode 1

	PLACE	**PEER 9 in No Access (MODE 25).**	
□	**VERIFY**	**LCP** sees **PEER 9** is in	**MODE 25**
□	**VERIFY**	**LCP** sees **CD#1 light** □ and **CD#2 light** □ go	**OFF**
	WAIT	Beam Imminent Alarm to **stop** sounding	
	PULL	Any Crash Operator: #_____ in **Zone 4Z1**	
□	**VERIFY**	**LCP** sees **PEER 9** goes to	**MODE 1**
□	**VERIFY**	**LCP** sees **CD#1 light** □ and **CD#2 light** □	**ON**
	REARM	Crash Operator	
	RESET	Crash at **LCP**	
□	**VERIFY**	**Crash**	**RESET**
	PLACE	**PEER 9 in Restricted Access (MODE 9).**	
□	**VERIFY**	**LCP** sees **PEER 9** is in	**MODE 9**

□ **Check for Acceptance of Test that a Crash Operator forces the system from Mode 25 to Mode 1.**

1.4 Test that a Crash Operator stops the Beam Imminent Alarm from sounding and forces the system from Mode 25 to Mode 1.

	PLACE	**PEER 9 in No Access (MODE 25).**	
□	**VERIFY**	**LCP** sees **PEER 9** is in	**MODE 25**
□	**VERIFY**	**LCP** sees **CD#1 light** □ and **CD#2 light** □ go	**OFF**
	PULL	Any Crash Operator: #_____ in **Zone 4Z1** while **Alarm is sounding**	
□	**VERIFY**	**Alarm** stops	**SOUNDING**
□	**VERIFY**	**LCP** sees **PEER 9** goes to	**MODE 1**
□	**VERIFY**	**LCP** sees **CD#1 light** □ and **CD#2 light** □ go	**ON**
	REARM	Crash Operator	
	RESET	Crash at **LCP**	
□	**VERIFY**	**Crash**	**RESET**
	PLACE	**PEER 9 in Restricted Access (MODE 9).**	
□	**VERIFY**	**LCP** sees **PEER 9** is in	**MODE 9**

□ **Check for Acceptance of Test that a Crash Operator stops the Beam Imminent Alarm from sounding and forces the system from Mode 25 to Mode 1.**

1.5 Test status of No Access and RF Hazard gate lights in Mode 25.

	PLACE	**Peer 9** in **Controlled Access (Mode 18)**	
□	**VERIFY**	**LCP** sees **Peer 9** is in **Controlled Access**	**MODE 18**
	RESET	**Gates:**	
	FORCE	**Zone 4Z1**	
	SWEEP		
□	**VERIFY**	**LCP** sees **Zone 4Z1**	**SWEPT**
□	**VERIFY**	Red **No Access** light at **gate 4GE1** is	**OFF**
□	**VERIFY**	Red **RF Hazard** light at **gate 4GE1** is	**OFF**
□	**VERIFY**	Red **No Access** light at **gate 4GE2** is	**OFF**
□	**VERIFY**	Red **RF Hazard** light at **gate 4GE2** is	**OFF**
□	**VERIFY**	Red **RF Hazard** light at **gate 3GI1** is	**OFF**
□	**VERIFY**	Red **RF Hazard** light at **gate 4GI1** is	**OFF**
	PLACE	**Peer 9** in **No Access (Mode 25)**	
□	**VERIFY**	**LCP** sees **Peer 9: A Div □, B Div □** in **No Access**	**MODE 25**
□	**VERIFY**	**Time _____ secs** for RF Imminent **Alarms** to **stop sounding**	
□	**VERIFY**	Red **No Access** light at **gate 4GE1** is	**ON**
□	**VERIFY**	Red **RF Hazard** light at **gate 4GE1** is	**ON**
□	**VERIFY**	Red **No Access** light at **gate 4GE2** is	**ON**
□	**VERIFY**	Red **RF Hazard** light at **gate 4GE2** is	**ON**
□	**VERIFY**	Red **RF Hazard** light at **gate 3GI1** is	**ON**
□	**VERIFY**	Red **RF Hazard** light at **gate 4GI1** is	**ON**
	PLACE	**Peer 9** in **Controlled Access (Mode 18)**	
□	**VERIFY**	**LCP** sees **Peer 9** is in **Controlled Access**	**MODE 18**

□ **Check for acceptance of Test status of No Access and RF Hazard gate lights in Mode 25.**

1.6 Test gates are locked and loss of sweep with gate openings in Mode 25.

	PLACE	**Peer 9** in **No Access (Mode 25)**	
□	**VERIFY**	**LCP** sees **Peer 9: A Div □, B Div □** in **No Access**	**MODE 25**
	WAIT	For **90 secs** for RF Imminent **Alarms** to **stop sounding**	
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	Zone 4Z1 **Sweep** light is	**ON**
	FOLLOW	Gate-opening tests in **Table** below	

Gate	Verify CD light is OFF		Verify Sweep light is ON	Verify attempt to open gate fail		Open gate	Verify Peer 9 goes to Mode 1	Verify Sweep light is OFF	Verify CD light is ON		Place Peer 9 in Mode 25 & test next gate
	CD#1	CD# 2		With Blue card	With #10 RF CA key				CD#1	CD#2	
3GI1	□	□	□	□	□		□	□	□	□	
4GE2	□	□	□	□	□		□	□	□	□	
4GI1	□	□	□	□	□		□	□	□	□	
4GE1	□	□	□	□	□		□	□	□	□	End of Test

□ **Check for Acceptance of Test gates are locked and loss of sweep with gate openings in Mode 25.**

1.7 Test in Mode 25 Chipmunk C50 Rad and/or Failsafe trip, A or B separately, disables the Critical Devices.

	PLACE	**Peer 9** in **Safe Access (Mode 1)**	
□	**VERIFY**	**LCP** sees **Peer 9** in **Safe Access**	**MODE 1**
□	**VERIFY**	Chipmunk C50 is in good physical condition and is	**CHIRPING**
□	**VERIFY**	**LCP** sees **Rad** light: **A Div □, B Div □**	**OFF**
□	**VERIFY**	**LCP** sees **NG Hware** light: **A Div □, B Div □**	**OFF**
	DETACH	Cable from Chipmunk	
□	**VERIFY**	**LCP** sees **Rad** light: **A Div □, B Div □**	**ON**
□	**VERIFY**	**LCP** sees **NG Hware** light: **A Div □, B Div □**	**ON**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**ON**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**ON**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**OFF**
	RESET	**Rad & NG Hware** at **PLC Cab**	
□	**VERIFY**	**LCP** sees **Rad** light: **A Div □, B Div □**	**OFF**
□	**VERIFY**	**LCP** sees **NG Hware** light: **A Div □, B Div □**	**OFF**
	PLACE	**Peer 9** in **No Access (Mode 25)**	
□	**VERIFY**	**LCP** sees **Peer 9: A Div □, B Div □** in **No Access**	**MODE 25**
	WAIT	For **90 secs** for RF Imminent **Alarms** to **stop sounding**	
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**ON**

□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div A** light is	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div B** light is	**ON**
	PRESS	**Div A Rad Trip** on Test Box	
□	**VERIFY**	**LCP** sees **Div A Rad** light is	**ON**
□	**VERIFY**	**LCP** sees **Peer 9 Div A No Access** light	**ON**
□	**VERIFY**	**LCP** sees **Peer 9 Div B No Access** light	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div A** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF Haz Div B** light is	**ON**
□	**VERIFY**	**LCP** sees **RF CD#1** light remains	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**ON**
□	**VERIFY**	**LCP** sees **RF CD#2** light remains	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**ON**
	RESET	**Div A Rad Trip** from **PLC Cab**	
□	**VERIFY**	**LCP** sees **Div A Rad** light is	**OFF**
	CYCLE	**#16 Transfer Key** (Turn OFF then ON)	
□	**VERIFY**	**LCP** sees **Peer 9** in **Safe Access**	**MODE 1**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**ON**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**ON**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**OFF**
	PLACE	**Peer 9** in **No Access (Mode 25)**	
□	**VERIFY**	**LCP** sees **Peer 9: A Div □, B Div □** in **No Access**	**MODE 25**
	WAIT	For **90 secs** for RF Imminent **Alarms** to **stop sounding**	**WAIT**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**ON**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div A** light is	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div B** light is	**ON**
	PRESS	**Div B Rad Trip** on Test Box	
□	**VERIFY**	**LCP** sees **Div B Rad** light is	**ON**
□	**VERIFY**	**LCP** sees **Peer 9 Div A No Access** light	**ON**
□	**VERIFY**	**LCP** sees **Peer 9 Div B No Access** light	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div A** light is	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div B** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#1** light remains	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**OFF**

□	**VERIFY**	**LCP** sees **RF CD#2** light remains	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**OFF**
	RESET	**Div B Rad Trip** from **PLC Cab**	
□	**VERIFY**	**LCP** sees **Div B Rad** light is	**OFF**
	CYCLE	**#16 Transfer Key** (Turn OFF then ON)	
□	**VERIFY**	**LCP** sees **Peer 9** in **Safe Access**	**MODE 1**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**ON**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**ON**
	PLACE	**Peer 9** in **No Access (Mode 25)**	
□	**VERIFY**	**LCP** sees **Peer 9: A Div □, B Div □** in **No Access**	**MODE 25**
	WAIT	For **90 secs** for RF Imminent **Alarms** to **stop sounding**	**WAIT**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF Haz Div A** light is	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div B** light is	**ON**
	PRESS	**Div A Failsafe** on Test Box	
□	**VERIFY**	**LCP** sees **Div A NG HWare** light is	**ON**
□	**VERIFY**	**LCP** sees **Peer 9 Div A No Access** light	**OFF**
□	**VERIFY**	**LCP** sees **Peer 9 Div B No Access** light	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div A** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF Haz Div B** light is	**ON**
□	**VERIFY**	**LCP** sees **RF CD#1** light remains	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**ON**
□	**VERIFY**	**LCP** sees **RF CD#2** light remains	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**ON**
	RESET	**Div A Failsafe** from **PLC Cab**	
□	**VERIFY**	**LCP** sees **Div A NG HWare** light is	**OFF**
	CYCLE	**#16 Transfer Key** (Turn OFF then ON)	
□	**VERIFY**	**LCP** sees **Peer 9** in **Safe Access**	**MODE 1**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**ON**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**ON**
	PLACE	**Peer 9** in **No Access (Mode 25)**	
□	**VERIFY**	**LCP** sees **Peer 9: A Div □, B Div □** in **No Access**	**MODE 25**
	WAIT	For **90 secs** for RF Imminent **Alarms** to **stop sounding**	**WAIT**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF Haz Div A** light is	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div B** light is	**ON**
	PRESS	**Div B Failsafe** on Test Box	
□	**VERIFY**	**LCP** sees **Div B NG HWare** light is	**ON**
□	**VERIFY**	**LCP** sees **Peer 9 Div A No Access** light	**ON**

□	**VERIFY**	**LCP** sees **Peer 9 Div B No Access** light	**OFF**
□	**VERIFY**	**LCP** sees **RF Haz Div A** light is	**ON**
□	**VERIFY**	**LCP** sees **RF Haz Div B** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#1** light remains	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light remains	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**OFF**
	RESET	**Div B Failsafe** from **PLC Cab**	
□	**VERIFY**	**LCP** sees **Div B NG HWare** light is	**OFF**
	CYCLE	**#16 Transfer Key** (Turn OFF then ON)	
□	**VERIFY**	**LCP** sees **Peer 9** in **Safe Access**	**MODE 1**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**ON**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**ON**
	DETACH	**Chipmunk Test Box** from Cable	
	CONNECT	**Chipmunk** to Cable	
	RESET	**NG HWare & NG Hware** at **PLC Cab**	
□	**VERIFY**	Chipmunk is	**CHIRPING**
□	**VERIFY**	**LCP** sees **Rad** light: **A Div □, B Div □**	**OFF**
□	**VERIFY**	**LCP** sees **NG Hware** light: **A Div □, B Div □**	**OFF**

□ **Check for Test Acceptance in Mode 25 Chipmunk C50 Rad and/or Failsafe trip, A or B Division separately, disables the Critical Devices.**

1.8 Test any 4XAS sensor ODH alarm changes Mode 25 to Mode 1 and disables the Critical Devices.

	PLACE	**Peer 9** in **No Access (Mode 25)**	
□	**VERIFY**	**LCP** sees **Peer 9** in **No Access** light: **Div A □** and **Div B □**	**ON**
□	**VERIFY**	**LCP** sees **RF Haz** light: **Div A □** and **Div B □**	**ON**
□	**VERIFY**	**LCP** sees **NG Hware** light: **A Div □, B Div □**	**OFF**
	WAIT	For **90 secs** for RF Imminent **Alarms** to **stop sounding**	
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**ON**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**ON**
	CHOOSE	ODH Sensor **4XAS___** from **4XCB □2, □4 or □5**	
	JUMP	**TP2 & TP4** in **Div A**	
□	**VERIFY**	ODH alarm is	**ON**
□	**VERIFY**	**LCP** sees **Peer 9 Div A No Access** light is	**OFF**
□	**VERIFY**	**LCP** sees **Div A RF Haz** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**ON**

□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**ON**
□	**VERIFY**	**LCP** sees **Div A NG Hware** light is	**ON**
	REMOVE	**Jumper** from TP2 & TP4 in **Div A**	
□	**VERIFY**	**LCP** sees **Div A NG Hware** light is	**OFF**
	CYCLE	**#16 Transfer Key** (Turn OFF then ON)	
□	**VERIFY**	**LCP** sees **Peer 9** in **Safe Access**	**MODE 1**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**ON**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**ON**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**OFF**
	PLACE	**Peer 9** in **No Access (Mode 25)**	
□	**VERIFY**	**LCP** sees **Peer 9** in **No Access** light: **Div A** □ and **Div B** □	**ON**
□	**VERIFY**	**LCP** sees **RF Haz** light: **Div A** □ and **Div B** □	**ON**
□	**VERIFY**	**LCP** sees **NG Hware** light: **A Div** □**, B Div** □	**OFF**
	WAIT	For **90 secs** for RF Imminent **Alarms** to **stop sounding**	
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**ON**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**ON**
	JUMP	**TP2 & TP4** in **Div B**	
□	**VERIFY**	ODH alarm is	**ON**
□	**VERIFY**	**LCP** sees **Peer 9 Div B No Access** light is	**OFF**
□	**VERIFY**	**LCP** sees **Div A RF Haz** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**OFF**
□	**VERIFY**	**LCP** sees **Div B NG Hware** light is	**ON**
	REMOVE	**Jumper** from TP2 & TP4 in **Div B**	
□	**VERIFY**	**LCP** sees **Div B NG Hware** light is	**OFF**
	CYCLE	**#16 Transfer Key** (Turn OFF then ON)	
□	**VERIFY**	**LCP** sees **Peer 9** in **Safe Access**	**MODE 1**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**ON**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**OFF**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**ON**

□ **VERIFY** **RF CD Box Block A1 Output 1** is **OFF**
□ **VERIFY** **RF CD Box Block B1 Output 1** is **OFF**

□ **Check for acceptance Test any 4XAS sensor ODH alarm changes Mode 25 to Mode 1 and disables the Critical Devices.**

1.9 Test any Non-4XAS sensor ODH alarm in zone 4Z1 affects Mode 25 and the Critical Devices.

PLACE **Peer 9** in **No Access (Mode 25)**
□ **VERIFY** **LCP** sees **Peer 9** in **No Access** light: **Div A** □ and **Div B** □ **ON**
□ **VERIFY** **LCP** sees **RF Haz** light: **Div A** □ and **Div B** □ **ON**
□ **VERIFY** **LCP** sees **NG Hware** light: **A Div** □**, B Div** □ **OFF**

WAIT For **90 secs** for RF Imminent **Alarms** to **stop sounding**

□ **VERIFY** **LCP** sees **RF CD#1** light is **OFF**
□ **VERIFY** **RF CD Box Block A1 Output 0** is **ON**
□ **VERIFY** **RF CD Box Block B1 Output 0** is **ON**
□ **VERIFY** **LCP** sees **RF CD#2** light is **OFF**
□ **VERIFY** **RF CD Box Block A1 Output 1** is **ON**
□ **VERIFY** **RF CD Box Block B1 Output 1** is **ON**

CHOOSE ODH Sensor **3AS___** from **3CB** □**2 or** □**4**
JUMP **TP2 & TP4** in **Div A**

□ **VERIFY** ODH alarm is **ON**
□ **VERIFY** **LCP** sees **Peer 9 Div A No Access** light is **OFF**
□ **VERIFY** **LCP** sees **Div A RF Haz** light is **OFF**
□ **VERIFY** **LCP** sees **RF CD#1** light is **OFF**
□ **VERIFY** **RF CD Box Block A1 Output 0** is **OFF**
□ **VERIFY** **RF CD Box Block B1 Output 0** is **ON**
□ **VERIFY** **LCP** sees **RF CD#2** light is **OFF**
□ **VERIFY** **RF CD Box Block A1 Output 1** is **OFF**
□ **VERIFY** **RF CD Box Block B1 Output 1** is **ON**
□ **VERIFY** **LCP** sees **Div A NG Hware** light is **OFF**

REMOVE **Jumper** from TP2 & TP4 in **Div A**

□ **VERIFY** **LCP** sees **Peer 9 No Access** light: **Div A** **OFF**
□ **VERIFY** **LCP** sees **Peer 9 No Access** light: **Div B** **ON**
□ **VERIFY** **LCP** sees **RF Haz** light: **Div A** **OFF**
□ **VERIFY** **LCP** sees **RF Haz** light: **Div B** **ON**
□ **VERIFY** **LCP** sees **Div A NG Hware** light is **OFF**
□ **VERIFY** **LCP** sees **RF CD#1** light is **OFF**
□ **VERIFY** **RF CD Box Block A1 Output 0** is **ON**
□ **VERIFY** **RF CD Box Block B1 Output 0** is **ON**
□ **VERIFY** **LCP** sees **RF CD#2** light is **OFF**
□ **VERIFY** **RF CD Box Block A1 Output 1** is **ON**
□ **VERIFY** **RF CD Box Block B1 Output 1** is **ON**

JUMP **TP2 & TP4** in **Div B**

□	**VERIFY**	ODH alarm is	**ON**
□	**VERIFY**	**LCP** sees **Peer 9 Div B No Access** light is	**OFF**
□	**VERIFY**	**LCP** sees **Div B RF Haz** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**OFF**
□	**VERIFY**	**LCP** sees **Div B NG Hware** light is	**ON**
	REMOVE	**Jumper** from TP2 & TP4 in **Div B**	
□	**VERIFY**	**LCP** sees **Peer 9** in **No Access** light: **Div A**	**ON**
□	**VERIFY**	**LCP** sees **Peer 9** in **No Access** light: **Div B**	**OFF**
□	**VERIFY**	**LCP** sees **RF Haz** light: **Div A**	**ON**
□	**VERIFY**	**LCP** sees **RF Haz** light: **Div B**	**OFF**
□	**VERIFY**	**LCP** sees **Div B NG Hware** light is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#1** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 0** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 0** is	**OFF**
□	**VERIFY**	**LCP** sees **RF CD#2** light is	**OFF**
□	**VERIFY**	**RF CD Box Block A1 Output 1** is	**ON**
□	**VERIFY**	**RF CD Box Block B1 Output 1** is	**OFF**
	PLACE	**Peer 9** in **Restricted Access (Mode 9)**	
□	**VERIFY**	**LCP** sees **Peer 9** in **Restricted Access**	**MODE 9**

□ **Check for acceptance Test any Non-4XAS sensor ODH alarm in zone 4Z1affects Mode 25 and the Critical Devices.**

END OF TEST PROCEDURE

TTL: Sign for completion of initial testing: _____

Date: _____/____/_____

TTL: Sign for completion of final testing: _____

Date: _____/____/_____